

NON-PUBLIC?: N
ACCESSION #: 8904060431

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Dresden Nuclear Power Station, Unit 2 PAGE: 1 of 4

DOCKET NUMBER: 05000237

TITLE: Reactor Scram on Low Reactor Water Level Due to Personnel Error During
125V DC Ground Checking

EVENT DATE: 03/04/89 LER #: 89-012-00 REPORT DATE: 03/30/89

OPERATING MODE: N POWER LEVEL: 092

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: Lawrence Bihlman, Technical Staff Engineer TELEPHONE: 815-942-2920
Ext. 2549

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:

REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On March 4, 1989 with Unit 2 in the Run mode at 92% rated core thermal power, the reactor scrambled on low reactor water level following the trip of both operating Reactor Feedwater Pumps (RFPs). At the time, Operations Department personnel were ground checking on the 125V DC battery system. The cause of the event as been determined to be personnel error. The High Voltage Operator (HVO) performing the ground check opened the wrong breaker which resulted in the trip of the RFPs. The ground detection procedure states that the breaker is only to be opened with permission of the Operating Engineer. The HVO did not have the procedure in hand at the time of the event. The labeling of the breaker also contributed to the event. The plant responded as designed during the event, therefore the event was deemed to be of minimal safety significance. A discussion was held with the HVO and all other shift personnel to emphasize attention to detail, communications and procedural adherence. The critical breakers have been relabelled so they will stand out from the remaining breakers. The ground detection procedures are being

reviewed and will be revised as required to assure that critical breakers are clearly identified and the consequences of their operation understood. These procedures will be posted at the appropriate DC switchgear locations when the revisions are approved. The last reactor scram from power which was caused by personnel error occurred on November 10, 1986 as reported by LER 86-012/Docket 050249.

END OF ABSTRACT

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PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 MWt rated core thermal power.

Nuclear Tracking System (NTS) tracking code numbers are identified in the text as (XXX-XXX-XX-XXXXX).

EVENT IDENTIFICATION:

While ground checking the 125V DC battery system the reactor scrammed on low reactor level due to personnel error when both operating Reactor Feedwater Pumps (RFPs) were inadvertently tripped.

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: March 4, 1989 Event Time: 0849 hours

Reactor Mode: N Mode Name: Run Power Level: 92%

Reactor Coolant System (RCS) Pressure: 1005 psig

B. DESCRIPTION OF EVENT:

On March 4, 1989 with Unit 2 in the Run mode at 92% rated core thermal power, while attempting to locate a ground on the 125V DC battery system EJ!, both the 2A and 2B Reactor Feedwater Pumps (RFPs) EJ! tripped as a result of a simulated low oil pressure and the reactor subsequently scrammed from an actual low reactor water level at 0849 hours. The simulated low oil pressure trip signal was caused by the deenergization of the RFP control logic during the ground check. Following the trip of the operating RFPs, the standby 2C RFP automatically started. The Nuclear Station Operator (NSO) reset the 2A RFP trip and attempted to restart the pump; however, both the 2A and 2C RFPs tripped. Another attempt resulted in the 2A RFP starting, followed by the automatic start of the 2C RFP. At this time the reactor scrammed and Group II and Group III Primary

Containment Isolations were received. Reactor water level dropped to approximately -15 inches and then started to recover. When reactor water level reached +55 inches the RFPs and the main turbine TA! tripped. The main generator TB! then tripped on reverse power and all house loads transferred to the reserve auxiliary transformer EA!. During the transfer the inboard Main Steam Isolation Valves (MSIVs) went closed. Also at this time the NSO observed that a Group V Primary Containment Isolation had occurred. With the main condenser SG! lost as a heat sink, reactor pressure started increasing. Subsequently, the Center Desk NSO and the Shift Foreman (SF) began to equalize pressure across the MSIVs so they could be reopened. The Group V Isolation was reset at a reactor pressure of 1060 psig and the Isolation Condenser BL! automatically initiated at the 1070 psig setpoint at 0912 hours.

The NSO took manual control of the Isolation Condenser and reduced pressure to approximately 900 psig. At 0920 hours the Isolation Condenser was secured and the MSIVs opened to reestablish the condenser as a heat sink and a normal Unit cooldown commenced. The required 10CFR50.72(b)(2)(ii) notification was made at 1019 hours and the reactor scram was reset at 1036 hours. An investigation into the cause of the event was immediately initiated.

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C. APPARENT CAUSE OF EVENT:

This report is being submitted to comply with 10CFR50.73(a)(2)(iv), which requires the reporting of any unplanned Engineered Safety Feature (ESF) actuation. The intermediate cause of the event was the tripping of both operating RFPs at 92% rated core thermal power. The root cause of the event has been determined to be personnel error. The High Voltage Operator (HVO) performing the ground check did not have Dresden Operating Procedure (DOP) 6900-6, 125V DC Ground Detection Unit 2, in his possession at the time of the event. The HVO also failed to notify the Control Room prior to deenergizing each of the individual circuits as required by DOP 6900-6. Current plant labeling also contributed to the event. In the past, circuits which had the potential to cause a Unit scram were labeled red with white lettering and required the Operating Engineer's permission to open. The remaining circuits were labeled white with black letters. Recently, under the new plant labeling program, all the labels were changed to a white background with either red or black lettering. Although the HVO should have noticed the difference, he did not; therefore, labeling contributed to the cause of the event.

The trip of the 2A and 2C RFPs is believed to be the result of low suction

pressure when the attempt was made to start the 2A RFP with the 2C RFP in a runout condition. The inboard MSIV closure occurred when the inboard MSIV DC pilot solenoids were deenergized by the HVO ground checking and the AC pilot solenoids deenergizing when house loads transferred due to a voltage dip on the Instrument Bus. The Group II and III Primary Containment Isolations were expected due to low reactor water level. The Group V Primary Containment Isolation also resulted from the HVO ground checking.

D. SAFETY ANALYSIS OF EVENT:

The plant responded as expected and designed based on the sequence of events encountered during the transient. The Emergency Core Cooling Systems (ECCSs) and the Diesel Generators EK! were operable and would have been able to mitigate the consequences of a postulated accident had they been required. Based on these facts this event was deemed to be of minimal safety significance.

E. CORRECTIVE ACTIONS:

Immediate corrective actions consisted of controlling reactor pressure and level in accordance with the Dresden Emergency Operating Procedures (DEOPs) and subsequently, bringing the reactor to a cold shutdown condition in accordance with the Dresden General Procedures (DGPs). Further corrective action consisted of determining the cause of the reactor scram and verifying that the inboard MSIV closure and the Group V Primary Containment Isolations were a result of the ground checking that was in progress. The event was discussed with the HVO and all other shift personnel. Attention to detail, communication and procedural adherence were stressed in the discussion. To prevent recurrence all critical breakers were labeled with red tape prior to the startup of Unit 2. The breakers will be permanently labeled with white letters on a red background (237-200-89-05201). The DC ground checking procedures are being reviewed and will be revised as necessary to assure clarity and proper breaker sequencing (237-200-89-05202). These procedures will be posted at the appropriate DC switchgear locations when the revisions are completed (237-200-89-05203). No further corrective action is deemed necessary at this time.

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F. PREVIOUS EVENTS:

LER/Docket Number Title

86-021/050249 Unit 3 Reactor Scram Due to Instrument Maintenance

Department Personnel Inadvertently Removing a Power Lead.
Unit 3 scrambled from 100% power when Instrument Maintenance
Department personnel lifted the wrong lead. The lifted
lead caused the drywell pneumatic supply valve to go closed
and the subsequent loss of control air to the MSIVs
resulted in them drifting closed. The individual was
reprimanded and the event was tailgated to stress the
importance of following specific work instructions.

G. COMPONENT FAILURE DATA:

This event did not involve a component failure.

ATTACHMENT 1 TO 8904060431 PAGE 1 OF 1

Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

March 30, 1989

EDE LTR #89-260

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Licensee Event Report #89-012-0, Docket #050237 is being submitted as required
by Technical Specification 6.6, NUREG 1022 and 10CFR50.73(a)(2)(iv).

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/ade

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
File/NRC
File Numerical

0538k

*** END OF DOCUMENT ***
